

AMENDMENT TO THE ABSTRACT

A method for the production of biopolymers with modified properties wherein at least one cycle comprising the following steps is completed:

- (a) providing a population of single-stranded polynucleotide molecules, wherein individual polynucleotide molecules comprise sequences which are homologous and sequences which are heterologous ~~sequence segments to sequences in other single-stranded polynucleotide molecules within said population, and wherein individual ones of said single-stranded polynucleotide molecules are wholly or partially complementary to~~ can form double-stranded polynucleotide molecules with other ones of said single-stranded polynucleotide molecules within said population;
- (b) forming double-stranded polynucleotide molecules from the population of single-stranded polynucleotide molecules provided according to step (a) comprising ~~double strands~~ double-stranded polynucleotide molecules with different heterologous sequence segments;
- (c) partially and exonucleolytically degrading the single-strands of the double-stranded polynucleotide molecules produced according to step (b); and
- (d) template-directed single-strand synthesizing the degraded ends of the partially degraded double strand produced according to step (c),

wherein steps (c) and (d) may be carried out sequentially or contemporaneously.